

Claims:

1. A method operable in a first component for adjusting the capacity of a network link between said first component and another component, said method comprising:

5 receiving a first data signal;

transmitting to said another component across forward channels of said network link a plurality of second data signals carrying the data of said first data signal and control information for a plurality of third data signals;

10 receiving from said another component said plurality of third data signals across respective return channels, said third data signals carrying control information for said plurality of second data signals which includes status information for less than a maximum number of said forward channels, said status information being out of phase within each of said return channels in respect of the forward channels to which the status information relates; and

15 adjusting the capacity of said network link in response to said status information.

2. A component for adjusting the capacity of a network link between said component and another component, said component comprising:

20 a receiver for receiving a first data signal;

a transmitter for transmitting across forward channels of said network link a plurality of second data signals carrying the data of said first data signal and control information for a plurality of third data signals;

25 a receiver for receiving said plurality of third data signals across respective return channels, said third data signals carrying control information for said plurality of second data signals which includes status information for less than a maximum number of said forward channels, said status information being out of phase within each of said return channels in respect of the forward channels to which the status information relates; wherein

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the component is responsive to said status information to adjust the capacity of said network link.

3. A component according to claim 2 wherein said component is arranged to communicate with said another component across a plurality of provisioned channels, said provisioned channels comprising a number of channels equal to or less than said maximum number of channels and wherein said forward channels comprise a number of in-use channels equal to or less than said number of provisioned channels.
4. A component according to claim 3 wherein said component is arranged to receive in said control information status information for said number of provisioned channels.
5. A component according to claim 3 wherein said component is arranged to receive in said control information status information for said number of in-use channels.
6. A component according to claim 5 wherein said component is arranged to selectively request said another component to provide in control information for said second data signals status information for said number of provisioned channels.
7. A component according to claim 2 wherein said component encapsulates the first data signals within the second data signals using virtual concatenation.
8. A component according to claim 2 wherein said component is arranged to adjust the capacity of said network link according to a link capacity adjustment scheme (LCAS).

9. A component according to claim 2 wherein said component is arranged to adjust the capacity of said network link by adding one or more forward channels to said network link whose status information indicates said forward channels are functioning.
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10. A component according to claim 2 wherein said component is arranged to adjust the capacity of said network link by removing one or more forward channels from said network link whose status information indicates said forward channels are malfunctioning.
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11. A component according to claim 2 wherein said component is arranged to include in said forward channel control information an indicator that the component is arranged to receive status information for less than the maximum number of forward channels in said network link, said status information being out phase within each of said return channels.
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12. A component according to claim 2 wherein said component is arranged to receive in said return channel control information an indicator that said status information is for less than the maximum number of forward channels in said network link and that said status information is out phase within each of said return channels.
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13. A component according to claim 12 wherein said component is further arranged to receive in said control channel information for each return channel a respective offset indicating the forward channels to which said status information relates.
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14. A component according to claim 2 wherein said component is arranged to transmit in said control information of said second data signals, status information for less than the maximum number of return channels in said second
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network link, said status information being out phase within each of said forward channels in respect of the return channels to which the status information relates.

- 5 15. A component according to claim 2 arranged to communicate with a network management system, said network management system being arranged to provision said forward and return channels between said component and said another component, said component being response to instructions from said network management system to add or remove forward channels from said network link.
- 10 16. A component according to claim 15 wherein said component is arranged to communicate said status information to said network management system.
- 15 17. A component according to claim 1 wherein there are two return channels and wherein said status information for said forward channels is 180° out of phase.
- 20 18. A computer program product which when executed on a networked device is operable to adjust the capacity of a network link, said computer program product comprising instructions effective to cause the networked device to:
 - receive a first data signal;
 - transmit to said another component across forward channels of said network link a plurality of second data signals carrying the data of said first data signal and control information for a plurality of third data signals;
 - receive from said another component said plurality of third data signals across
 - 25 respective return channels, said third data signals carrying control information for said plurality of second data signals which includes status information for less than a maximum number of said forward channels, said status information being out phase within each of said return channels in respect of the forward channels to which the status information relates; and
 - 30 adjust the capacity of said network link in response to said status information.

19. A system comprising a component according to claim 2 in communication across said network link and said second network link with another component according to claim 2.

19. A system comprising a component according to claim 2 in communication across said network link and said second network link with another component according to claim 2.